

PYTHON AND MYSQL PROJECT

Q) Create an application level library management program using python and MySQL.

Ans)

MYSQL CODE:

```
mysql> CREATE DATABASE Library;
```

Query OK, 1 row affected (0.05 sec)

```
mysql> USE Library;
```

Database changed

```
mysql> CREATE TABLE BookDetails(
```

- > BookID int(3) PRIMARY KEY,
- > BookName varchar(30) NOT NULL,
- > BookAuthor varchar(30) NOT NULL,
- > BookPublisher varchar(30) NOT NULL,
- > BorrowTime int(2) NOT NULL,
- > BookFee int(5) NOT NULL);

Query OK, 0 rows affected (0.08 sec)

```
mysql> CREATE TABLE MemberDetails(
```

- > MemberID varchar(3) PRIMARY KEY,
- > MemberName char(30) NOT NULL,
- > MemberAddress varchar(50) NOT NULL,
- > MemberNo int(15) NOT NULL,
- > MemberEmail varchar(30) NOT NULL,
- > DateJoined date NOT NULL);

Query OK, 0 rows affected (0.03 sec)

```
mysql> CREATE TABLE BorrowDetails(
```

```
-> MemberID varchar(3) NOT NULL,
```

```
-> FOREIGN KEY(MemberID) REFERENCES MemberDetails(MemberID),
```

```
-> BookID int(3) NOT NULL,
```

```
-> FOREIGN KEY(BookID) REFERENCES BookDetails(BookID),
```

```
-> IssueDate date NOT NULL,
```

```
-> ReturnDate date,
```

```
-> Fee int(10));
```

Query OK, 0 rows affected (0.06 sec)

```
mysql> SHOW TABLES;
```

```
+-----+
| Tables_in_library |
+-----+
| bookdetails       |
| borrowdetails     |
| memberdetails     |
+-----+
3 rows in set (0.00 sec)
```

```
mysql> DESC BookDetails;
```

```
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| BookID     | int(3)    | NO   | PRI | NULL    |       |
| BookName   | varchar(30) | NO   |     | NULL    |       |
| BookAuthor | varchar(30) | NO   |     | NULL    |       |
| BookPublisher | varchar(30) | NO   |     | NULL    |       |
| BorrowTime | int(2)     | NO   |     | NULL    |       |
| BookFee    | int(5)     | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.05 sec)
```

mysql> DESC MemberDetails;

Field	Type	Null	Key	Default	Extra
MemberID	varchar(3)	NO	PRI	NULL	
MemberName	char(30)	NO		NULL	
MemberAddress	varchar(50)	NO		NULL	
MemberNo	int(15)	NO		NULL	
MemberEmail	varchar(30)	NO		NULL	
DateJoined	date	NO		NULL	

6 rows in set (0.06 sec)

mysql> DESC BorrowDetails;

Field	Type	Null	Key	Default	Extra
MemberID	varchar(3)	NO	MUL	NULL	
BookID	int(3)	NO	PRI	NULL	
IssueDate	date	NO		NULL	
ReturnDate	date	YES		NULL	
Fee	int(10)	YES		NULL	

5 rows in set (0.01 sec)

mysql> INSERT INTO

BookDetails(BookID,BookName,BookAuthor,BookPublisher,BorrowTime,BookFee) VALUES(101,'Born A Crime','Trever Noah','ABC',20,25);

Query OK, 1 row affected (0.03 sec)

mysql> INSERT INTO

BookDetails(BookID,BookName,BookAuthor,BookPublisher,BorrowTime,BookFee) VALUES(102,'A Long Way Home','Saroo Brierley','New York Times',28,15);

Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO

BookDetails(BookID,BookName,BookAuthor,BookPublisher,BorrowTime,BookFee) VALUES(103,'Diary Of a Wimpy Kid','Jeff Kinney','Washington Publish',15,10);

Query OK, 1 row affected (0.01 sec)

```
mysql> INSERT INTO
BookDetails(BookID,BookName,BookAuthor,BookPublisher,BorrowTime,BookFee)
VALUES(104,'Avengers:Endgame','Stan Lee','Marvel',25,20);
```

Query OK, 1 row affected (0.03 sec)

```
mysql> SELECT*FROM BookDetails;
```

BookID	BookName	BookAuthor	BookPublisher	BorrowTime	BookFee
101	Born A Crime	Trever Noah	ABC	20	25
102	A Long Way Home	Saroo Brierley	New York Times	28	15
103	Diary Of a Wimpy Kid	Jeff Kinney	Washington Publish	15	10
104	Avengers:Endgame	Stan Lee	Marvel	25	20

4 rows in set (0.00 sec)

```
mysql> INSERT INTO
MemberDetails(MemberID,MemberName,Memberaddress,MemberNo,MemberEmail,DateJoined)
VALUES('A01','Riya Singh','KotoKu Ojima 7-30-11',1823627,'riya6171023@gmail.com','2019-12-10');
```

Query OK, 1 row affected (0.05 sec)

```
mysql> INSERT INTO
MemberDetails(MemberID,MemberName,Memberaddress,MemberNo,MemberEmail,DateJoined)
VALUES('A02','Atiqa Tasnim','KotoKu Ojima 6-20-12',2834729,'atiqa@gmail.com','2019-04-19');
```

Query OK, 1 row affected (0.01 sec)

```
mysql> INSERT INTO
MemberDetails(MemberID,MemberName,Memberaddress,MemberNo,MemberEmail,DateJoined)
VALUES('A03','Ahana Bhattacharya','EdogawaKu Higashi Ojima Komatsugawa 5-19-43',8974722,'ahana@gmail.com','2019-02-09');
```

Query OK, 1 row affected (0.03 sec)

```
mysql> INSERT INTO
MemberDetails(MemberID,MemberName,Memberaddress,MemberNo,MemberEmail,DateJoined)
VALUES('A04','Kaylee','EdogawaKu Higashi Ojima Komatsugawa 5-20-27',5683821,'kaylee123@gmail.com','2019-01-11');
```

Query OK, 1 row affected (0.02 sec)

```
mysql> INSERT INTO
```

```
MemberDetails(MemberID,MemberName,Memberaddress,MemberNo,MemberEmail,DateJoined)
VALUES('A05','Tanvi Singh','KotoKu Ojima 2-35-64',7192347,'tanvi124@gmail.com','2019-03-23');
```

Query OK, 1 row affected (0.02 sec)

```
mysql> SELECT*FROM MemberDetails;
```

MemberID	MemberName	MemberAddress	MemberNo	MemberEmail	DateJoined
A01	Riya Singh	KotoKu Ojima 7-30-11	1823627	riya6171023@gmail.com	2019-12-10
A02	Atiqa Tasnim	KotoKu Ojima 6-20-12	2834729	atiqa@gmail.com	2019-04-19
A03	Ahana Bhattacharya	EdogawaKu Higashi Ojima Komatsugawa 5-19-43	8974722	ahana@gmail.com	2019-02-09
A04	Kaylee	EdogawaKu Higashi Ojima Komatsugawa 5-20-27	5683821	kaylee123@gmail.com	2019-01-11
A05	Tanvi Singh	KotoKu Ojima 2-35-64	7192347	tanvi124@gmail.com	2019-03-23

5 rows in set (0.00 sec)

```
mysql> INSERT INTO BorrowDetails(MemberID,BookID,IssueDate,ReturnDate,Fee)
```

```
VALUES('A01',104,'2019-12-10',NULL,NULL);
```

Query OK, 1 row affected (0.03 sec)

```
mysql> INSERT INTO BorrowDetails(MemberID,BookID,IssueDate,ReturnDate,Fee)
```

```
VALUES('A05',103,'2019-05-12','2019-05-26',NULL);
```

Query OK, 1 row affected (0.02 sec)

```
mysql> SELECT*FROM BorrowDetails;
```

MemberID	BookID	IssueDate	ReturnDate	Fee
A01	104	2019-11-17	NULL	NULL
A05	103	2019-05-12	2019-05-26	NULL

2 rows in set (0.00 sec)

PYTHON CODE:

```
import mysql.connector as sqltor
```

```
from datetime import date
```

```
today = date.today()
```

```
mycon=sqltor.connect(host="localhost", user="root", passwd="grade12",
database="library")
```

```
if mycon.is_connected:
    print("Database access granted!")
else:
    print("Database access denied!!")
cursor=mycon.cursor()

def bookdisplay():
    query="Select*from BookDetails"
    cursor.execute(query)
    records=cursor.fetchall()
    print("\n")
    print("+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+")
    print("| BOOK ID | \t BOOK NAME \t | BOOK AUTHOR | BOOK PUBLISHER | BORROW TIME | BOOK FEE |")
    print("+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+")
    for record in records:
        print("|",record[0]," "*(6-len(str(record[0]))),"|",
              record[1]," "*(20-len(record[1])),"|",
              record[2]," "*(14-len(record[2])),"|",
              record[3]," "*(19-len(record[3])),"|",
              record[4]," "*(10-len(str(record[4]))),"|",
              record[5]," "*(7-len(str(record[5]))),"|")
    print("+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+")

def memdisplay():
    query="Select*from MemberDetails"
    cursor.execute(query)
    records=cursor.fetchall()
```



```

        record[3], " "*(12-len(str(record[3]))),"|",
        record[4], " "*(6-len(str(record[4]))),"|")
    print("+-----+-----+-----+-----+-----+-----
-+")

```

```

def lib2():
    query1 = "Select BookID from BookDetails"
    cursor.execute(query1)
    records = cursor.fetchall()
    print("\n")
    print("These are existing book IDs:")
    for record in records:
        print(record[0])
    print("\n")
    bid = int(input("Enter unique book ID:"))
    name = input("Enter book name:")
    author = input("Enter book author:")
    pub = input("Enter book publisher:")
    time = int(input("Enter the number of days for which the book can be
borrowed:"))
    fee = int(input("Enter fee to be paid if book is returned late:"))
    query2 = "Insert into
BookDetails(BookID,BookName,BookAuthor,BookPublisher,BorrowTime,BookFee)
values{ }".format((bid,name,author,pub,time,fee))
    cursor.execute(query2)
    mycon.commit()
    print("\n")
    choice = input("Do you want to see modified table? (y/n):")
    if choice=="y" or choice=="Y":
        bookdisplay()

```



```
def lib3():
    print("\n")
    bookID = int(input("Enter the book ID whose records are to be deleted:"))
    query1 = "Delete from BookDetails where BookID={}".format(bookID)
    cursor.execute(query1)
    mycon.commit()
    print("\n")
    choice = input("Do you want to see modified table? (y/n):")
    if choice=="y" or choice=="Y":
        bookdisplay()

def lib4i():
    bid = int(input("Enter book ID whose book name is to be changed:"))
    query1 = "Select * from BookDetails where BookID={}".format(bid)
    cursor.execute(query1)
    record = cursor.fetchone()
    print("\n")
    if record==None:
        print("No such record exists.")
    else:
        print("The given book ID has following details:")
        print("\n")
        print("+-----+-----+-----+-----+")
        print("| BOOK ID | \t BOOK NAME \t | BOOK AUTHOR |  
BOOK PUBLISHER | BORROW TIME | BOOK FEE |")
        print("+-----+-----+-----+-----+")
        print("|",record[0]," *(6-len(str(record[0])))","|",  
record[1]," *(20-len(record[1])), "|",
```

```

        record[2], "   *(14-len(record[2])), "|",
        record[3], "   *(19-len(record[3])), "|",
        record[4], "   *(10-len(str(record[4])), "|",
        record[5], "   *(7-len(str(record[5])), "|" )

    print("+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+")
    -----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+

    print("\n")
    new = input("Enter new book name:")
    query2 = "Update BookDetails set BookName='{}' where
BookID={}".format(new,bid)
    cursor.execute(query2)
    mycon.commit()
    print("\n")
    choice = input("Do you want to see modified table? (y/n):")
    if choice=="y" or choice=="Y":
        bookdisplay()

def lib4ii():
    bid = int(input("Enter book id whose book author is to be changed:"))
    query1 = "Select * from BookDetails where BookID={}".format(bid)
    cursor.execute(query1)
    record = cursor.fetchone()
    print("\n")
    if record==None:
        print("No such record exists.")
    else:
        print("The given book ID has following details:")
        print("\n")
        print("+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+")
        -----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+

```

```

        print("| BOOK ID | \t BOOK NAME \t | BOOK AUTHOR |
BOOK PUBLISHER | BORROW TIME | BOOK FEE |")

        print("+-----+-----+-----+-----+
-----+-----+-----+-----+
")

        print("|",record[0]," "*(6-len(str(record[0]))),"|",
              record[1]," "*(20-len(record[1])),"|",
              record[2]," "*(14-len(record[2])),"|",
              record[3]," "*(19-len(record[3])),"|",
              record[4]," "*(10-len(str(record[4]))),"|",
              record[5]," "*(7-len(str(record[5]))),"|")

        print("+-----+-----+-----+-----+
-----+-----+-----+-----+
")

        print("\n")

        new = input("Enter new book author:")

        query2 = "Update BookDetails set BookAuthor='{}' where
BookID={}".format(new,bid)

        cursor.execute(query2)

        mycon.commit()

        print("\n")

        choice = input("Do you want to see modified table? (y/n):")

        if choice=="y" or choice=="Y":

            bookdisplay()

```

```

def lib4iii():

    bid = int(input("Enter book id whose book publisher details is to be
changed:"))

    query1 = "Select * from BookDetails where BookID={}".format(bid)

    cursor.execute(query1)

    record = cursor.fetchone()

    print("\n")

    if record==None:

```

```

        print("No such record exists.")
    else:
        print("The given book ID has following details:")
        print("\n")
        print("+-----+-----+-----+-----+")
        print("| BOOK ID | \t BOOK NAME \t | BOOK AUTHOR |  
BOOK PUBLISHER | BORROW TIME | BOOK FEE |")
        print("+-----+-----+-----+-----+")
        print("|",record[0]," "*(6-len(str(record[0]))),"|",
              record[1]," "*(20-len(record[1])), "|",
              record[2]," "*(14-len(record[2])), "|",
              record[3]," "*(19-len(record[3])), "|",
              record[4]," "*(10-len(str(record[4]))),"|",
              record[5]," "*(7-len(str(record[5]))),"|")
        print("+-----+-----+-----+-----+")
        print("\n")
        new = input("Enter new book publisher:")
        query2 = "Update BookDetails set BookPublisher='{ }' where  
BookID={}".format(new,bid)
        cursor.execute(query2)
        mycon.commit()
        print("\n")
        choice = input("Do you want to see modified table? (y/n):")
        if choice=="y" or choice=="Y":
            bookdisplay()

def lib4iv():
    bid = int(input("Enter book id whose borrow time is to be changed:"))

```

```

query1 = "Select * from BookDetails where BookID={}".format(bid)
cursor.execute(query1)
record = cursor.fetchone()
print("\n")
if record==None:
    print("No such record exists.")
else:
    print("The given book ID has following details:")
    print("\n")
    print("+-----+-----+-----+-----+")
    print("| BOOK ID | \t BOOK NAME \t | BOOK AUTHOR |  
BOOK PUBLISHER | BORROW TIME | BOOK FEE |")
    print("+-----+-----+-----+-----+")
    print("|",record[0]," *(6-len(str(record[0]]))","|",
          record[1]," *(20-len(record[1]))","|",
          record[2]," *(14-len(record[2]))","|",
          record[3]," *(19-len(record[3]))","|",
          record[4]," *(10-len(str(record[4])))","|",
          record[5]," *(7-len(str(record[5])))","|")
    print("+-----+-----+-----+-----+")
    print("\n")
    new = input("Enter new borrow time:")
    query2 = "Update BookDetails set BorrowTime='{}' where  
BookID={}".format(new,bid)
    cursor.execute(query2)
    mycon.commit()
    print("\n")
    choice = input("Do you want to see modified table? (y/n):")

```

```

        if choice=="y" or choice=="Y":
            bookdisplay()

def lib4v():
    bid = int(input("Enter book id whose fee is to be changed:"))
    query1 = "Select * from BookDetails where BookID={}".format(bid)
    cursor.execute(query1)
    record = cursor.fetchone()
    print("\n")
    if record==None:
        print("No such record exists.")
    else:
        print("The given book ID has following details:")
        print("\n")
        print("+-----+-----+-----+-----+")
        -----+-----+-----+-----+
        print("| BOOK ID | \t BOOK NAME \t | BOOK AUTHOR |  
BOOK PUBLISHER | BORROW TIME | BOOK FEE |")
        print("+-----+-----+-----+-----+")
        -----+-----+-----+-----+
        print("|",record[0]," "*(6-len(str(record[0]))),"|",
              record[1]," "*(20-len(record[1])), "|",
              record[2]," "*(14-len(record[2])), "|",
              record[3]," "*(19-len(record[3])), "|",
              record[4]," "*(10-len(str(record[4]))),"|",
              record[5]," "*(7-len(str(record[5]))),"|")
        print("+-----+-----+-----+-----+")
        -----+-----+-----+-----+
        print("\n")
        new = input("Enter new fee:")

```

```

        query2 = "Update BookDetails set BookFee='{}' where
BookID={}".format(new,bid)

        cursor.execute(query2)

        mycon.commit()

        print("\n")

        choice = input("Do you want to see modified table? (y/n):")

        if choice=="y" or choice=="Y":

            bookdisplay()

```

```

def lib4menu():

    choice="y"

    while choice=="y" or choice=="Y":

        print("\n")

        print("1) BookName")

        print("2) BookAuthor")

        print("3) BookPublisher")

        print("4) BorrowTime")

        print("5) BookFee")

        print("\n")

        option = input("Enter update menu option to be executed:")

        print("\n")

        if option=="1":

            lib4i()

        elif option=="2":

            lib4ii()

        elif option=="3":

            lib4iii()

        elif option=="4":

            lib4iv()

        elif option=="5":

```

```

        lib4v()
    else:
        print("Invalid input.")
    print("\n")
    choice=input("Do you want to continue updating?(y/n):")

def librarian():
    choice="y"
    while choice=="y" or choice=="Y":
        print("\n")
        print("LIBRARIAN MENU OPTIONS:")
        print("1) Display book details")
        print("2) Add book")
        print("3) Delete book")
        print("4) Update book details")
        print("5) View borrowed book details")
        print("6) View member details")
        print("\n")
        option = input("Enter menu option to be executed:")
        if option=="1":
            bookdisplay()
        elif option=="2":
            lib2()
        elif option=="3":
            lib3()
        elif option=="4":
            lib4menu()
        elif option=="5":
            borrowdisplay()
        elif option=="6":

```



```

        memdisplay()
    else:
        print("Invalid input.")
        print("\n")
        choice=input("Do you want to continue with any other
option?(y/n):")

def mem2():
    query1 = "Select MemberID from MemberDetails"
    cursor.execute(query1)
    records = cursor.fetchall()
    print("\n")
    print("These are existing Member IDs:")
    for record in records:
        print(record[0])
    print("\n")
    mid = input("Enter unique member ID that starts with a letter and
ends with two digits:")
    name = input("Enter your name:")
    addr = input("Enter your address:")
    phno = int(input("Enter your phone number:"))
    mail = input("Enter your email address:")
    query2 = "Insert into
MemberDetails(MemberID,MemberName,MemberAddress,MemberNo,MemberEmail,DateJoin
ed) values{}".format((mid,name,addr,phno,mail,str(today)))
    cursor.execute(query2)
    mycon.commit()
    print("\n")
    print("Congratulations! You have become a new member!")

def mem3():

```

```

print("\n")

mid = input("Enter your member ID:")

query1 = "Select * from MemberDetails where
MemberID='{ }' ".format(mid)

cursor.execute(query1)

record = cursor.fetchone()

print("\n")

if record==None:

    print("No such record exists.")

else:

    print("The given member ID has following details:")

    print("\n")

    print("+-----+-----+-----+-----+-----+-----+
-----+
-----+")

    print(" | MEMBER ID |      MEMBER NAME      | \t\t MEMBER
ADDRESS \t\t | MEMBER NUMBER | \t MEMBER EMAIL \t | DATE JOINED |")

    print("+-----+-----+-----+-----+-----+-----+
-----+
-----+")

    print("|",record[0]," *(8-len(record[0])), "|",
          record[1]," *(18-len(record[1])), "|",
          record[2]," *(43-len(record[2])), "|",
          record[3]," *(12-len(str(record[3]))), "|",
          record[4]," *(21-len(record[4])), "|",
          record[5]," *(10-len(str(record[5]))), "|")

    print("+-----+-----+-----+-----+-----+-----+
-----+
-----+")

    print("\n")

    query2 = "Select * from BorrowDetails where
MemberID='{ }' ".format(mid)

    cursor.execute(query2)

```

```

records = cursor.fetchall()

if records==[]:

    print("No history of borrowed books available.")
else:

    print("Borrowed book details:")
    print("\n")
    print("+-----+-----+-----+-----+-----+-----+-----+")
    print("| MEMBER ID | BOOK ID | ISSUE DATE | RETURN DATE | FEE |")
    print("+-----+-----+-----+-----+-----+-----+-----+")

    for record in records:

        print("|",record[0]," "*(8-len(record[0])),"|",
              record[1]," "*(6-len(str(record[1]))),"|",
              record[2]," "*(11-len(str(record[2]))),"|",
              record[3]," "*(12-len(str(record[3]))),"|",
              record[4]," "*(6-len(str(record[4]))),"|")

    print("+-----+-----+-----+-----+-----+-----+-----+")

def mem4i():

    mid = input("Enter your member ID:")

    query1 = "Select * from MemberDetails where MemberID='{ }'".format(mid)

    cursor.execute(query1)

    record = cursor.fetchone()

    print("\n")

    if record==None:

        print("No such record exists.")

    else:
```

```

        print("The given member ID has following details:")

        print("\n")

        print("+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+")
        print("-----+")

        print("| MEMBER ID |      MEMBER NAME      | \t\t MEMBER ADDRESS \t\t | MEMBER NUMBER | MEMBER EMAIL \t | DATE JOINED |")

        print("+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+")
        print("-----+")

        print("|",record[0]," "*(8-len(record[0])),"|",
              record[1]," "*(18-len(record[1])),"|",
              record[2]," "*(43-len(record[2])),"|",
              record[3]," "*(12-len(str(record[3]))),"|",
              record[4]," "*(21-len(record[4])),"|",
              record[5]," "*(10-len(str(record[5]))),"|")

        print("+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+")
        print("-----+")

        print("\n")

        new = input("Enter new name:")

        query2 = "Update MemberDetails set MemberName='{ }' where MemberID='{ }'".format(new,mid)

        cursor.execute(query2)

        mycon.commit()

        print("\n")

        query3 = "Select * from MemberDetails where MemberID='{ }'".format(mid)

        cursor.execute(query3)

        record1 = cursor.fetchone()

        choice = input("Do you want to see your modified record? (y/n):")

        print("\n")

```



```

print("+-----+-----+-----+-----+-----")
-----+")

ADDRESS      print("| MEMBER ID |      MEMBER NAME      | \t\t MEMBER
\t\t | MEMBER NUMBER | \t MEMBER EMAIL \t | DATE JOINED |")

print("+-----+-----+-----+-----+-----")
-----+")

print("|",record[0]," "*(8-len(record[0])),"|",
      record[1]," "*(18-len(record[1])),"|",
      record[2]," "*(43-len(record[2])),"|",
      record[3]," "*(12-len(str(record[3]))),"|",
      record[4]," "*(21-len(record[4])),"|",
      record[5]," "*(10-len(str(record[5]))),"|")

print("+-----+-----+-----+-----+-----")
-----+")

print("\n")
new = input("Enter new address:")
query2 = "Update MemberDetails set MemberAddress='{ }' where
MemberID='{ }'".format(new,mid)
cursor.execute(query2)
mycon.commit()
print("\n")
query3 = "Select * from MemberDetails where
MemberID='{ }'".format(mid)
cursor.execute(query3)
record1 = cursor.fetchone()
choice = input("Do you want to see your modified record?
(y/n):")

print("\n")
if choice=="y" or choice=="Y":

```

```

print("+-----+-----+-----+-----")
+-----+")

        print("| MEMBER ID |      MEMBER NAME      | \t\t
MEMBER ADDRESS    \t\t | MEMBER NUMBER | \t MEMBER EMAIL \t   | DATE JOINED
|")

        print("+-----+-----+-----+-----")
+-----+")

        print("|",record1[0]," "*(8-len(record1[0])), "|",
              record1[1], " "*(18-len(record1[1])), "|",
              record1[2], " "*(43-len(record1[2])), "|",
              record1[3], " "*(12-len(str(record1[3]))), "|",
              record1[4], " "*(21-len(record1[4])), "|",
              record1[5], " "*(10-len(str(record1[5]))), "|")

        print("+-----+-----+-----+-----")
+-----+")

def mem4iii():
    mid = input("Enter your member ID:")
    query1 = "Select * from MemberDetails where
MemberID='{ }' ".format(mid)
    cursor.execute(query1)
    record = cursor.fetchone()
    print("\n")
    if record==None:
        print("No such record exists.")
    else:
        print("The given member ID has following details:")
        print("\n")
        print("+-----+-----+-----+-----")
+-----+")
```

```

print("\t\t\t\t\t| MEMBER ID | \t\t\t\t\tMEMBER NAME | \t\t\t\t\tMEMBER  
ADDRESS \t\t\t\t\t| MEMBER NUMBER | \t\t\t\t\tMEMBER EMAIL \t\t\t\t\t| DATE JOINED |")  
  
    print("+-----+-----+-----+-----+-----+-----+  
-----+-----+-----+-----+-----+-----+-----+  
-----+")  
  
    print("|",record[0]," "*(8-len(record[0])),"|",  
          record[1]," "*(18-len(record[1])), "|",  
          record[2]," "*(43-len(record[2])), "|",  
          record[3]," "*(12-len(str(record[3]))), "|",  
          record[4]," "*(21-len(record[4])), "|",  
          record[5]," "*(10-len(str(record[5]))), "|")  
  
    print("+-----+-----+-----+-----+-----+-----+  
-----+-----+-----+-----+-----+-----+-----+  
-----+")  
  
    print("\n")  
    new = int(input("Enter new phone number:"))  
    query2 = "Update MemberDetails set MemberNo={} where  
MemberID='{}'".format(new,mid)  
    cursor.execute(query2)  
    mycon.commit()  
    print("\n")  
    query3 = "Select * from MemberDetails where  
MemberID='{}'".format(mid)  
    cursor.execute(query3)  
    record1 = cursor.fetchone()  
    choice = input("Do you want to see your modified record?  
(y/n):")  
  
    print("\n")  
    if choice=="y" or choice=="Y":  
        print("+-----+-----+-----+-----+-----+-----+  
-----+-----+-----+-----+-----+-----+-----+  
-----+")
```



```

        print("| MEMBER ID | MEMBER NAME | \t\t
MEMBER ADDRESS \t\t | MEMBER NUMBER | \t MEMBER EMAIL \t | DATE JOINED
|")

        print("+-----+-----+-----+-----+
-----+-----+-----+-----+
+-----+")

        print("|",record1[0]," *(8-len(record1[0])),"|",
              record1[1]," *(18-len(record1[1])),"|",
              record1[2]," *(43-len(record1[2])),"|",
              record1[3]," *(12-len(str(record1[3]))),"|",
              record1[4]," *(21-len(record1[4])),"|",
              record1[5]," *(10-len(str(record1[5]))),"|")

        print("+-----+-----+-----+-----+
-----+-----+-----+-----+
+-----+")

def mem4iv():
    mid = input("Enter your member ID:")
    query1 = "Select * from MemberDetails where
MemberID='{}'".format(mid)
    cursor.execute(query1)
    record = cursor.fetchone()
    print("\n")
    if record==None:
        print("No such record exists.")
    else:
        print("The given member ID has following details:")
        print("\n")
        print("+-----+-----+-----+-----+
-----+-----+-----+-----+
-----+")

        print("| MEMBER ID | MEMBER NAME | \t\t MEMBER
ADDRESS \t\t | MEMBER NUMBER | \t MEMBER EMAIL \t | DATE JOINED |")

```

```
print("+-----+-----+-----+-----+-----")
-----+")

    print("|",record[0]," "*(8-len(record[0])),"|",
          record[1]," "*(18-len(record[1])),"|",
          record[2]," "*(43-len(record[2])),"|",
          record[3]," "*(12-len(str(record[3]))),"|",
          record[4]," "*(21-len(record[4])),"|",
          record[5]," "*(10-len(str(record[5]))),"|")

    print("+-----+-----+-----+-----+-----")
-----+")

    print("\n")
    new = input("Enter new email:")
    query2 = "Update MemberDetails set MemberEmail='{ }' where
MemberID='{ }'".format(new,mid)
    cursor.execute(query2)
    mycon.commit()
    print("\n")
    query3 = "Select * from MemberDetails where
MemberID='{ }'".format(mid)
    cursor.execute(query3)
    record1 = cursor.fetchone()
    choice = input("Do you want to see your modified record?
(y/n):")

    print("\n")
    if choice=="y" or choice=="Y":
        print("+-----+-----+-----+-----+-----")
-----+
+-----+")

        print("| MEMBER ID |      MEMBER NAME      | \t\t
MEMBER ADDRESS   \t\t | MEMBER NUMBER | \t MEMBER EMAIL \t | DATE JOINED
|")
```



```

        mem4iv()
    elif option=="5":
        mem4v()
    else:
        print("Invalid input.")
    print("\n")
    choice=input("Do you want to continue updating?(y/n):")

```

```

def mem5():
    print("\n")
    mid = input("Enter your member ID:")
    query1 = "Select * from MemberDetails where
MemberID='{}'.format(mid)
    cursor.execute(query1)
    record = cursor.fetchone()
    if record==None:
        print("\n")
        print("No such record exists.")
    else:
        print("\n")
        print("These are the following books available:")
        bookdisplay()
        print("\n")
        bid = int(input("Enter book ID of book to be issued:"))
        issuedate = str(today)
        query1 = "Insert into
BorrowDetails(MemberID,BookID,IssueDate)
values{}".format((mid,bid,str(issuedate)))
        cursor.execute(query1)
        mycon.commit()
        print("\n")

```

```

        query2 = "Select * from BorrowDetails where MemberID='{}' and
BookID={}".format(mid,bid)

        cursor.execute(query2)

        record = cursor.fetchone()

        choice = input("Do you want to see your modified record?
(y/n):")

        if choice=="y" or choice=="Y":

            print("\n")

            print("+-----+-----+-----+-----+
-----+-----+")
            print("| MEMBER ID | BOOK ID | ISSUE DATE | RETURN
DATE | FEE |")
            print("+-----+-----+-----+-----+
-----+-----+")

            print("|",record[0]," "*(8-len(record[0])),"|",
                  record[1]," "*(6-len(str(record[1]))),"|",
                  record[2]," "*(11-len(str(record[2]))),"|",
                  record[3]," "*(12-len(str(record[3]))),"|",
                  record[4]," "*(6-len(str(record[4]))),"|")

            print("+-----+-----+-----+-----+
-----+-----+")

def mem6():

    print("\n")

    mid = input("Enter your member ID:")

    query1 = "Select * from BorrowDetails where MemberID='{}' and
ReturnDate is null".format(mid)

    cursor.execute(query1)

    records = cursor.fetchall()

    condition = 0

    for record in records:

        record=list(record)

```

```

date = record[3]
date = str(date)
if date=="None":
    condition = 1
    print("\n")
    mid = record[0]
    bid = record[1]
    returndate = str(today)
    query2 = "Update BorrowDetails set ReturnDate='{}'
where MemberID='{}' and BookID={}".format(returndate,mid,bid)
    cursor.execute(query2)
    mycon.commit()
    print("Book returned.")
    query3 = "Select * from BorrowDetails where
MemberID='{}' and BookID={}".format(mid,bid)
    cursor.execute(query3)
    record = cursor.fetchone()
    difference = record[3]-record[2]
    time = difference.days
    query4 = "Select * from BookDetails where
BookID={}".format(bid)
    cursor.execute(query4)
    bookrec = cursor.fetchone()
    borrowtime = bookrec[4]
    bookfee = bookrec[5]
    if time>borrowtime:
        fee = (time-borrowtime)*bookfee
    else:
        fee=0
    query5 = "Update BorrowDetails set Fee={} where
MemberID='{}' and BookID={}".format(fee,mid,bid)

```

```

        cursor.execute(query5)
        mycon.commit()
        print("\n")
        query6 = "Select * from BorrowDetails where
MemberID='{}' and BookID={}".format(mid,bid)
        cursor.execute(query6)
        record1 = cursor.fetchone()
        choice = input("Do you want to see your modified
record? (y/n):")

        if choice=="y" or choice=="Y":
            print("\n")
            print("+-----+-----+-----+
+-----+-----+")
            print("| MEMBER ID | BOOK ID | ISSUE DATE |
RETURN DATE | FEE |")
            print("+-----+-----+-----+
+-----+-----+")
            print("|",record1[0]," "*(8-
len(record1[0])), "|",
                    record1[1]," "*(6-
len(str(record1[1])), "|",
                    record1[2]," "*(11-
len(str(record1[2])), "|",
                    record1[3]," "*(12-
len(str(record1[3])), "|",
                    record1[4]," "*(6-
len(str(record1[4])), "|")
            print("+-----+-----+-----+
+-----+-----+")
            else:
                condition = 0
            if condition==0:
                print("\n")
                print("No such records exist.")

```

```
def member():
    choice="y"
    while choice=="y" or choice=="Y":
        print("\n")
        print("MEMBER MENU OPTIONS:")
        print("1) View book details")
        print("2) Register yourself")
        print("3) Display your details")
        print("4) Update your details")
        print("5) Issue book")
        print("6) Return book")
        print("\n")
        option = input("Enter menu option to be executed:")
        if option=="1":
            bookdisplay()
        elif option=="2":
            mem2()
        elif option=="3":
            mem3()
        elif option=="4":
            mem4menu()
        elif option=="5":
            mem5()
        elif option=="6":
            mem6()
        else:
            print("\n")
            print("Invalid input.")
    print("\n")
```



```

        choice=input("Do you want to continue with any other
option?(y/n):")

def first():
    print("\n")
    print("Are you a librarian or a member?")
    status = input("Enter 'L' for librarian or 'M' for member:")
    while len(status)!=0:
        if status=="L" or status=="l":
            librarian()
            break
        elif status=="M" or status=="m":
            member()
            break
        else:
            print("Invalid input. Please re-enter status.")
            status = input("Enter 'L' for librarian or 'M' for
member:")
    mycon.close()
first()

```

OUTPUTS:

User: LIBRARIAN

Database access granted!

Are you a librarian or a member?
Enter 'L' for librarian or 'M' for member:L

LIBRARIAN MENU OPTIONS:
1) Display book details
2) Add book
3) Delete book
4) Update book details
5) View borrowed book details
6) View member details

Enter menu option to be executed:1

BOOK ID	BOOK NAME	BOOK AUTHOR	BOOK PUBLISHER	BORROW TIME	BOOK FEE
101	Born A Crime	Trever Noah	ABC	20	25
102	A Long Way Home	Saroo Brierley	New York Times	28	15
103	Diary Of a Wimpy Kid	Jeff Kinney	Washington Publish	15	10
104	Avengers:Endgame	Stan Lee	Marvel	25	20

Do you want to continue with any other option?(y/n):Y

LIBRARIAN MENU OPTIONS:
1) Display book details
2) Add book
3) Delete book
4) Update book details
5) View borrowed book details
6) View member details

Enter menu option to be executed:2

These are existing book IDs:

101
102
103
104

Enter unique book ID:105
Enter book name:Batman
Enter book author:Joey T
Enter book publisher:DC
Enter the number of days for which the book can be borrowed:15
Enter fee to be paid if book is returned late:8

Do you want to see modified table? (y/n):y

BOOK ID	BOOK NAME	BOOK AUTHOR	BOOK PUBLISHER	BORROW TIME	BOOK FEE
101	Born A Crime	Trever Noah	ABC	20	25
102	A Long Way Home	Saroo Brierley	New York Times	28	15
103	Diary Of a Wimpy Kid	Jeff Kinney	Washington Publish	15	10
104	Avengers:Endgame	Stan Lee	Marvel	25	20
105	Batman	Joey T	DC	15	8

Do you want to continue with any other option?(y/n):y

LIBRARIAN MENU OPTIONS:

- 1) Display book details
- 2) Add book
- 3) Delete book
- 4) Update book details
- 5) View borrowed book details
- 6) View member details

Enter menu option to be executed:3

Enter the book ID whose records are to be deleted:105

Do you want to see modified table? (y/n):Y

BOOK ID	BOOK NAME	BOOK AUTHOR	BOOK PUBLISHER	BORROW TIME	BOOK FEE
101	Born A Crime	Trever Noah	ABC	20	25
102	A Long Way Home	Saroo Brierley	New York Times	28	15
103	Diary Of a Wimpy Kid	Jeff Kinney	Washington Publish	15	10
104	Avengers:Endgame	Stan Lee	Marvel	25	20

Do you want to continue with any other option?(y/n):Y

LIBRARIAN MENU OPTIONS:

- 1) Display book details
- 2) Add book
- 3) Delete book
- 4) Update book details
- 5) View borrowed book details
- 6) View member details

Enter menu option to be executed:4

- 1) BookID
- 2) BookName
- 3) BookAuthor
- 4) BookPublisher
- 5) BorrowTime
- 6) BookFee

Enter update menu option to be executed:1

Enter book ID that is to be changed:101

The given book ID has following details:

BOOK ID	BOOK NAME	BOOK AUTHOR	BOOK PUBLISHER	BORROW TIME	BOOK FEE
101	Born A Crime	Trever Noah	ABC	20	25

These are existing book IDs:

101
102
103
104

Enter unique new book id:105

Do you want to see modified table? (y/n):y

BOOK ID	BOOK NAME	BOOK AUTHOR	BOOK PUBLISHER	BORROW TIME	BOOK FEE
102	A Long Way Home	Saroo Brierley	New York Times	28	15
103	Diary Of a Wimpy Kid	Jeff Kinney	Washington Publish	15	10
104	Avengers:Endgame	Stan Lee	Marvel	25	20
105	Born A Crime	Trever Noah	ABC	20	25

Do you want to continue updating?(y/n):y

- 1) BookID
- 2) BookName
- 3) BookAuthor
- 4) BookPublisher
- 5) BorrowTime
- 6) BookFee

Enter update menu option to be executed:2

Enter book ID whose book name is to be changed:105

The given book ID has following details:

BOOK ID	BOOK NAME	BOOK AUTHOR	BOOK PUBLISHER	BORROW TIME	BOOK FEE
105	Born A Crime	Trever Noah	ABC	20	25

Enter new book name:Born A Criminal

Do you want to see modified table? (y/n):Y

BOOK ID	BOOK NAME	BOOK AUTHOR	BOOK PUBLISHER	BORROW TIME	BOOK FEE
102	A Long Way Home	Saroo Brierley	New York Times	28	15
103	Diary Of a Wimpy Kid	Jeff Kinney	Washington Publish	15	10
104	Avengers:Endgame	Stan Lee	Marvel	25	20
105	Born A Criminal	Trever Noah	ABC	20	25

Do you want to continue updating?(y/n):Y

- 1) BookID
- 2) BookName
- 3) BookAuthor
- 4) BookPublisher
- 5) BorrowTime
- 6) BookFee

Enter update menu option to be executed:3

Enter book id whose book author is to be changed:102

The given book ID has following details:

BOOK ID	BOOK NAME	BOOK AUTHOR	BOOK PUBLISHER	BORROW TIME	BOOK FEE
102	A Long Way Home	Saroo Brierley	New York Times	28	15

Enter new book author:Saroo Brirley

Do you want to see modified table? (y/n):y

BOOK ID	BOOK NAME	BOOK AUTHOR	BOOK PUBLISHER	BORROW TIME	BOOK FEE
102	A Long Way Home	Saroo Brirley	New York Times	28	15
103	Diary Of a Wimpy Kid	Jeff Kinney	Washington Publish	15	10
104	Avengers:Endgame	Stan Lee	Marvel	25	20
105	Born A Criminal	Trever Noah	ABC	20	25

Do you want to continue updating?(y/n):y

- 1) BookID
- 2) BookName
- 3) BookAuthor
- 4) BookPublisher
- 5) BorrowTime
- 6) BookFee

Enter update menu option to be executed:4

Enter book id whose book publisher details is to be changed:104

The given book ID has following details:

BOOK ID	BOOK NAME	BOOK AUTHOR	BOOK PUBLISHER	BORROW TIME	BOOK FEE
104	Avengers:Endgame	Stan Lee	Marvel	25	20

Enter new book publisher:Marvel Comics

Do you want to see modified table? (y/n):y

BOOK ID	BOOK NAME	BOOK AUTHOR	BOOK PUBLISHER	BORROW TIME	BOOK FEE
102	A Long Way Home	Saroo Brirley	New York Times	28	15
103	Diary Of a Wimpy Kid	Jeff Kinney	Washington Publish	15	10
104	Avengers:Endgame	Stan Lee	Marvel Comics	25	20
105	Born A Criminal	Trever Noah	ABC	20	25

Do you want to continue updating?(y/n):Y

- 1) BookID
- 2) BookName
- 3) BookAuthor
- 4) BookPublisher
- 5) BorrowTime
- 6) BookFee

Enter update menu option to be executed:5

Enter book id whose borrow time is to be changed:102

The given book ID has following details:

BOOK ID	BOOK NAME	BOOK AUTHOR	BOOK PUBLISHER	BORROW TIME	BOOK FEE
102	A Long Way Home	Saroo Brirley	New York Times	28	15

Enter new borrow time:25

Do you want to see modified table? (y/n):y

BOOK ID	BOOK NAME	BOOK AUTHOR	BOOK PUBLISHER	BORROW TIME	BOOK FEE
102	A Long Way Home	Saroo Brirley	New York Times	25	15
103	Diary Of a Wimpy Kid	Jeff Kinney	Washington Publish	15	10
104	Avengers:Endgame	Stan Lee	Marvel Comics	25	20
105	Born A Criminal	Trever Noah	ABC	20	25

Do you want to continue updating?(y/n):Y

- 1) BookID
- 2) BookName
- 3) BookAuthor
- 4) BookPublisher
- 5) BorrowTime
- 6) BookFee

Enter update menu option to be executed:6

Enter book id whose fee is to be changed:105

The given book ID has following details:

BOOK ID	BOOK NAME	BOOK AUTHOR	BOOK PUBLISHER	BORROW TIME	BOOK FEE
105	Born A Criminal	Trever Noah	ABC	20	25

Enter new fee:22

Do you want to see modified table? (y/n):Y

BOOK ID	BOOK NAME	BOOK AUTHOR	BOOK PUBLISHER	BORROW TIME	BOOK FEE
102	A Long Way Home	Saroo Brirley	New York Times	25	15
103	Diary Of a Wimpy Kid	Jeff Kinney	Washington Publish	15	10
104	Avengers:Endgame	Stan Lee	Marvel Comics	25	20
105	Born A Criminal	Trever Noah	ABC	20	22

Do you want to continue updating?(y/n):y

- 1) BookID
- 2) BookName
- 3) BookAuthor
- 4) BookPublisher
- 5) BorrowTime
- 6) BookFee

Enter update menu option to be executed:2

Enter book ID whose book name is to be changed:101

No such record exists.

Do you want to continue updating?(y/n):N

Do you want to continue with any other option?(y/n):Y

LIBRARIAN MENU OPTIONS:

- 1) Display book details
- 2) Add book
- 3) Delete book
- 4) Update book details
- 5) View borrowed book details
- 6) View member details

Enter menu option to be executed:5

MEMBER ID	BOOK ID	ISSUE DATE	RETURN DATE	FEE
A05	103	2019-05-12	2019-05-26	None
A01	104	2019-12-10	None	None

Do you want to continue with any other option?(y/n):y

LIBRARIAN MENU OPTIONS:

- 1) Display book details
- 2) Add book
- 3) Delete book
- 4) Update book details
- 5) View borrowed book details
- 6) View member details

Enter menu option to be executed:6

MEMBER ID	MEMBER NAME	MEMBER ADDRESS	MEMBER NUMBER	MEMBER EMAIL	DATE JOINED
A01	Riya Singh	KotoKu Ojima 7-30-11	1823627	riya6171023@gmail.com	2019-12-10
A02	Atiqa Tasnim	KotoKu Ojima 6-20-12	2834729	atiqa@gmail.com	2019-04-19
A03	Ahana Bhattacharya	EdogawaKu Higashi Ojima Komatsugawa 5-19-43	8974722	ahana@gmail.com	2019-02-09
A04	Kaylee	EdogawaKu Higashi Ojima Komatsugawa 5-20-27	5683821	kaylee123@gmail.com	2019-01-11
A05	Tanvi Singh	KotoKu Ojima 2-35-64	7192347	tanvi124@gmail.com	2019-03-23

Do you want to continue with any other option?(y/n):n

>>>

User: MEMBER

Database access granted!

Are you a librarian or a member?
Enter 'L' for librarian or 'M' for member:M

MEMBER MENU OPTIONS:
1) View book details
2) Register yourself
3) Display your details
4) Update your details
5) Issue book
6) Return book

Enter menu option to be executed:1

BOOK ID	BOOK NAME	BOOK AUTHOR	BOOK PUBLISHER	BORROW TIME	BOOK FEE
102	A Long Way Home	Saroo Brierley	New York Times	25	15
103	Diary Of a Wimpy Kid	Jeff Kinney	Washington Publish	15	10
104	Avengers:Endgame	Stan Lee	Marvel Comics	25	20
105	Born A Criminal	Trever Noah	ABC	20	22

Do you want to continue with any other option?(y/n):Y

MEMBER MENU OPTIONS:
1) View book details
2) Register yourself
3) Display your details
4) Update your details
5) Issue book
6) Return book

Enter menu option to be executed:2

These are existing Member IDs:

A01
A02
A03
A04
A05

Enter unique member ID that starts with a letter and ends with two digits:A06

Enter your name:Ankit Mehra

Enter your address:ABC Street-28381

Enter your phone number:9823476

Enter your email address:ankitm@hotmail.com

Congratulations! You have become a new member!

Do you want to continue with any other option?(y/n):y

MEMBER MENU OPTIONS:
1) View book details
2) Register yourself
3) Display your details
4) Update your details
5) Issue book
6) Return book

Enter menu option to be executed:3